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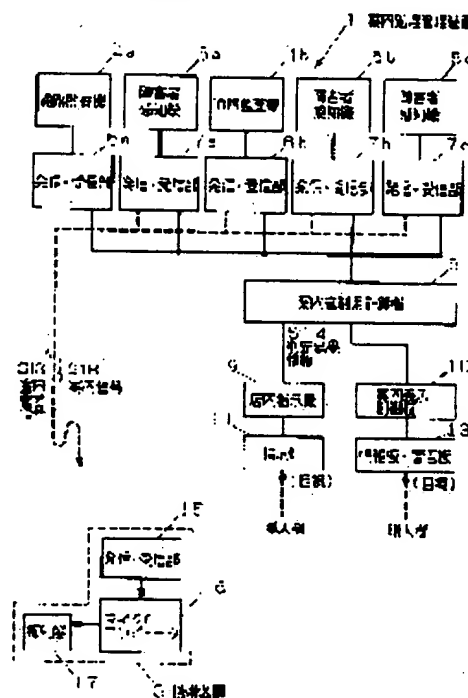
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## (54) GUIDANCE SYSTEM FOR VISUALLY AND AUDIBLY HANDICAPPED PERSON

(57)Abstract:

PURPOSE: To surely guide a visually and audially handicapped person in a shop, etc., to make the name of a desired article in the shop, etc., confirm by the person, to guide the person to a place where the article is displayed, and to arrange and distribute the desired article.

CONSTITUTION: A guidance processing managing device 1 transmits a guidance signal S18 via a computer 8 for guidance control and transmission/reception parts 6a, 6b. The device also receives a guidance request signal S13 transmitted from a portable device 3 via the transmission/reception parts 6a, 6b and handicapped person sensors 5a-5c. The approach (of the visually/audially handicapped person) of the portable device 3 is discriminated from a reception signal by the handicapped person sensors (5a-5c), and approach information is sent out of transmission/reception parts 7a-7c to the computer 8 for guidance control. The computer 8 for guidance control transmits information analyzed based on the reception signal from the transmission/reception parts 7a-7c as the guidance signal S18. The guidance signal S18 is received by the transmission/reception part 15 of the portable device 3, and a microcomputer 16 informs guidance information to a transporter by operating an annunciator 17.



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CLAIMS

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[Claim(s)]

[Claim 1] The pocket equipment which receives on radio and displays the response to the guidance demand information which carried out radio sending of the information on the inputted guidance demand, and carried out radio sending while the sight-and-hearing-handicaps person carried, While the status of the path where senses the sight-and-hearing-handicaps person who carries the above-mentioned pocket equipment, and a sight-and-hearing-handicaps person moves is inspected The guidance system for sight-and-hearing-handicaps persons equipped with the guidance processing management equipment which receives the guidance demand information from the above-mentioned pocket equipment, and carries out radio sending of the guidance information which processed this guidance demand information, and is displayed.

[Claim 2] A sensing means to sense the sight-and-hearing-handicaps person to whom guidance processing management equipment carries pocket equipment, A path audit means of the path where a sight-and-hearing-handicaps person moves to inspect an obstruction and the confusion status at least, A receiving means to receive the guidance demand information from the above-mentioned pocket equipment, and a guidance demand information-processing means to process the guidance demand information received with the above-mentioned receiving means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having the radio transmitting means which carries out radio sending of the processing information processed with the above-mentioned guidance demand information-processing means, and the display means which displays [ voice-] and/or displays [ visual-sense-] the processing information which processed with the above-mentioned guidance demand information-processing means.

[Claim 3] A store means to store the guidance demand information on a plurality [ equipment / pocket ], and a selection means to choose two or more guidance demand informations that it stored in the above-mentioned store means, The radio transmitting means which carries out radio sending of the guidance demand information chosen with the above-mentioned selection means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having a radio receiving means to receive the guidance information from guidance processing management equipment, and a sound output means to carry out the sound output of the receipt information which received with the above-mentioned radio receiving means, and to display it.

[Claim 4] A store means to store the guidance demand information on a plurality [ equipment / pocket ], and a selection means to choose two or more guidance demand informations that it stored in the above-mentioned store means, The radio transmitting means which carries out radio sending of the guidance demand information chosen with the above-mentioned selection means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having a voice-output means to carry out the voice output of the receipt information which received with a radio receiving means to receive the guidance information from guidance processing management equipment, and the guidance demand information and the above-mentioned radio receiving means which were chosen with the above-mentioned selection means, and to display it.

[Claim 5] A store means to store the guidance demand information on a plurality [ equipment / pocket ], and a selection means to choose two or more guidance demand informations that it stored in the above-mentioned store means, The radio transmitting means which carries out radio sending of the guidance demand information chosen with the above-mentioned selection means, A radio receiving means to receive the guidance information from guidance processing management equipment, and a low frequency oscillating information conversion means to change into a low frequency oscillating information the receipt information which received with the guidance demand information and the above-mentioned radio receiving means which were chosen with the above-mentioned selection means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having the low frequency oscillating means of communication which transmits the low frequency oscillating information from the above-mentioned low frequency oscillating information conversion means to a man's skin.

[Claim 6] The key input means for pocket equipment inputting two or more guidance demand informations with the Morse code, The radio transmitting means which carries out radio sending of the guidance demand information that it inputted with the above-mentioned key input means, A radio receiving means to receive the guidance information from guidance processing management equipment, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having the Morse code sound output means which changes into the Morse code the receipt information which received with the guidance demand information and the above-mentioned radio receiving means which were chosen with the above-mentioned selection means, and carries out a sound output.

[Claim 7] The key input means for pocket equipment inputting two or more guidance demand informations, The radio transmitting means which carries out radio sending of the guidance demand information that it inputted with the above-mentioned

key input means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having a radio receiving means to receive the guidance information from guidance processing management equipment, and a synthesized-speech output means to output the receipt information which received with the guidance demand information and the above-mentioned radio receiving means which were chosen with the above-mentioned selection means by the synthesized speech.

[Claim 8] The key input means for pocket equipment inputting two or more guidance demand informations, The radio transmitting means which carries out radio sending of the guidance demand information that it inputted with the above-mentioned key input means, The guidance system for sight-and-hearing-handicaps persons according to claim 1 characterized by having a Braille-points printout means to print in braille the receipt information which received with a radio receiving means to receive the guidance information from guidance processing management equipment, and the guidance demand information and the above-mentioned radio receiving means which were chosen with the above-mentioned selection means, and to output it.

[Claim 9] The guidance system for sight-and-hearing-handicaps persons characterized by equipping a disabled person conveyance vehicle with pocket equipment according to claim \*, \*, \*, \*, \*, \*, \*, or \*.

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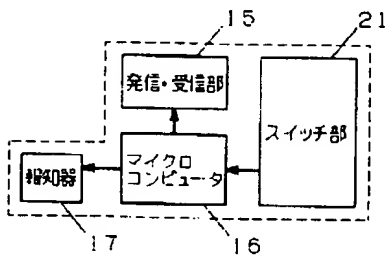
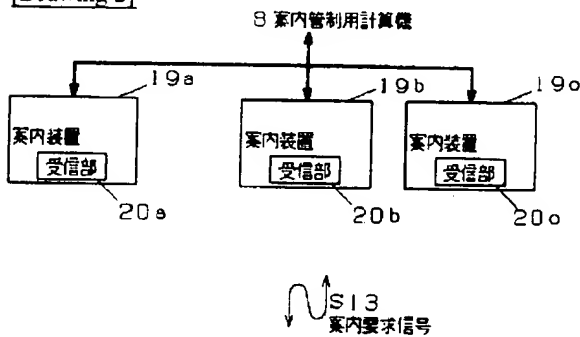
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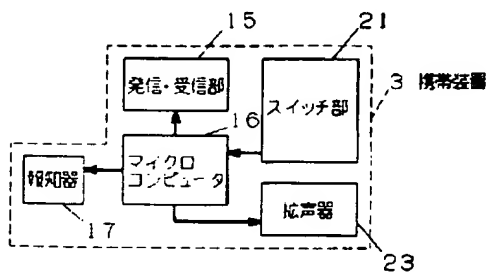
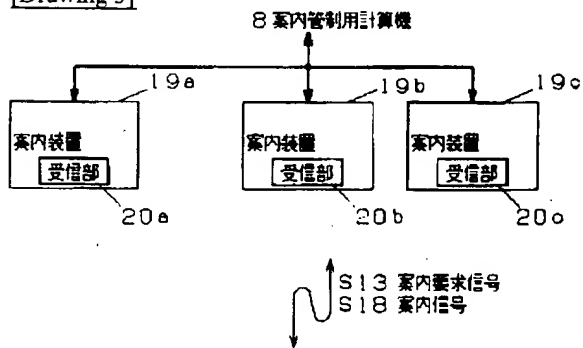
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DRAWINGS

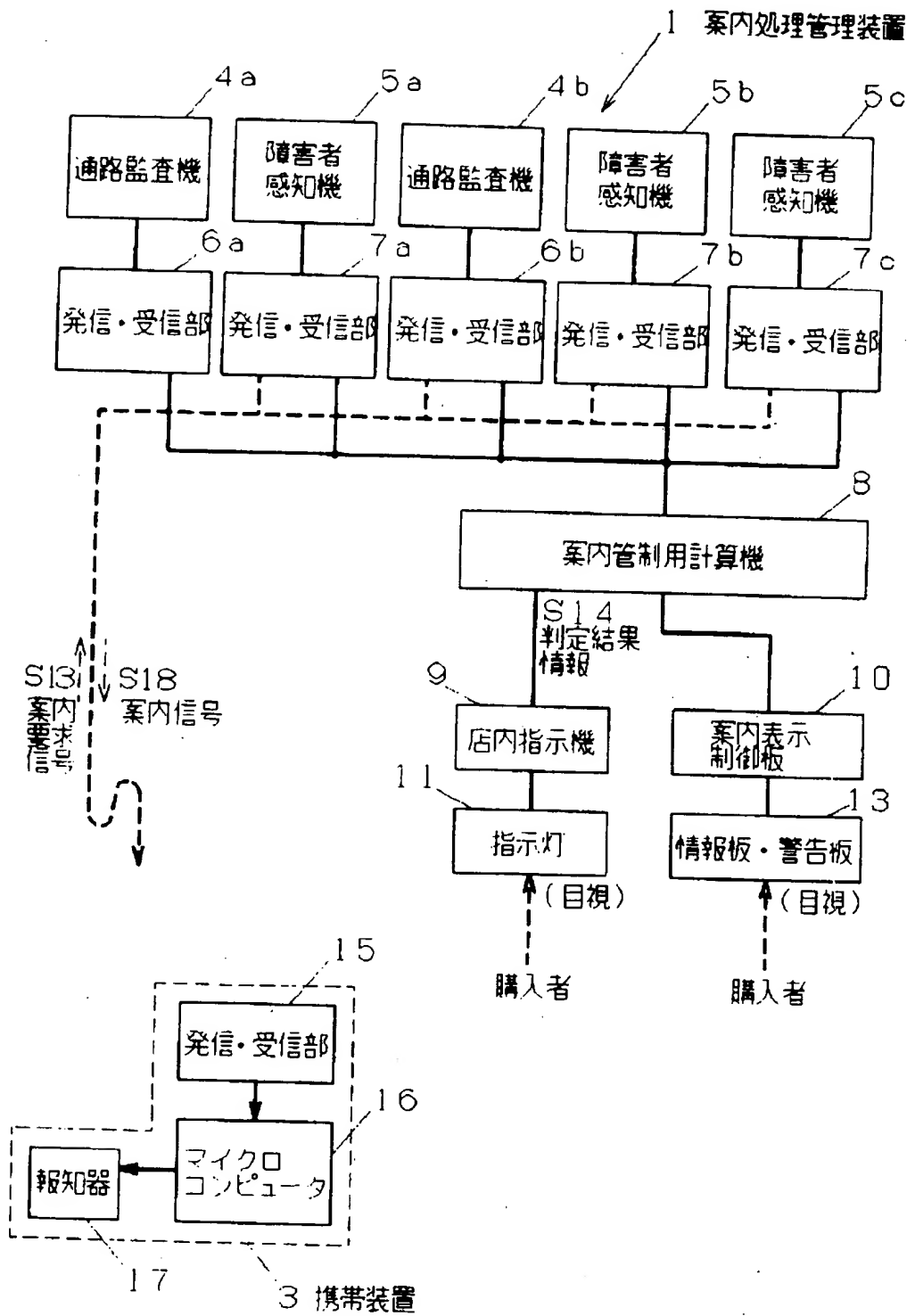
[Drawing 2]



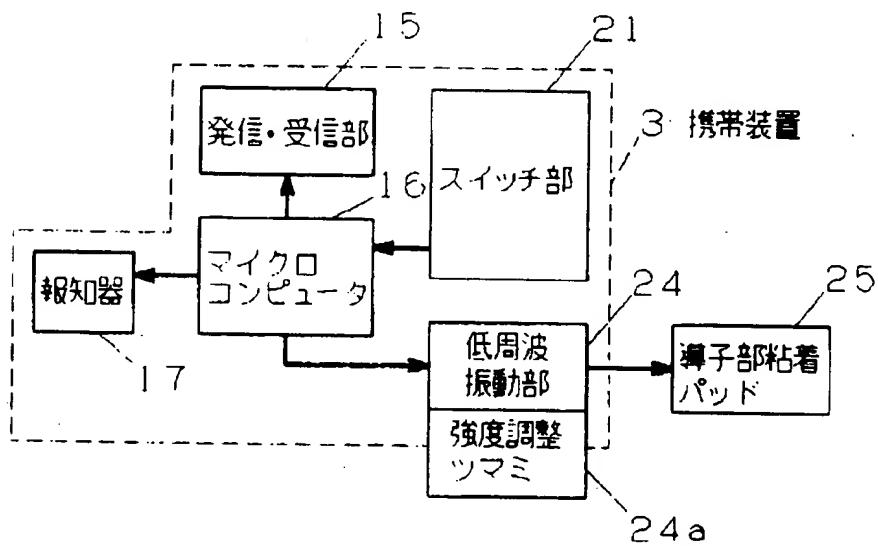
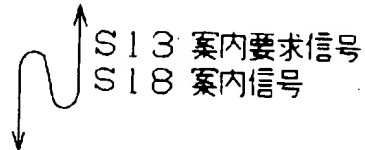
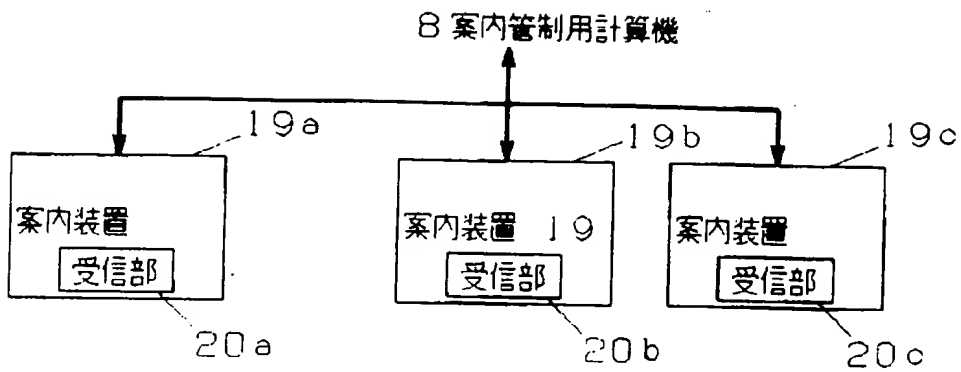
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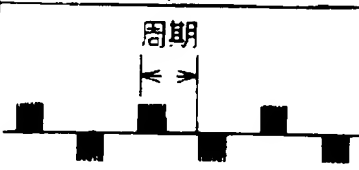
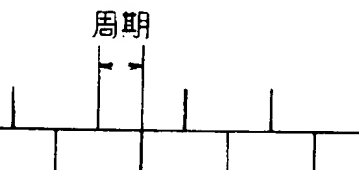

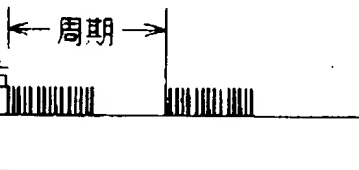
[Drawing 1]



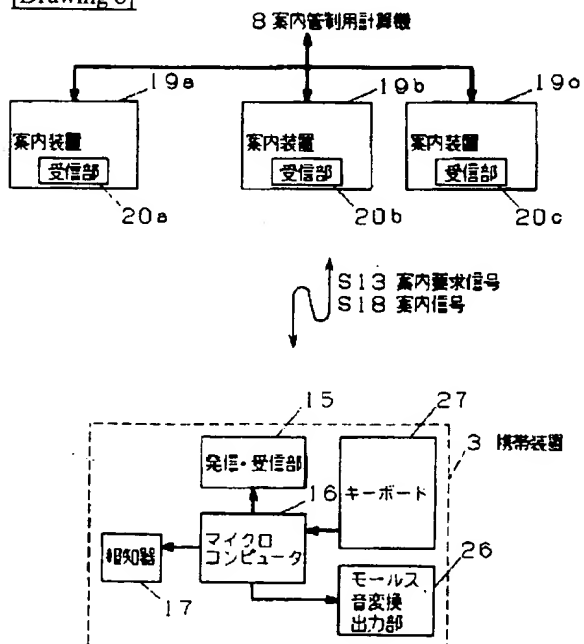
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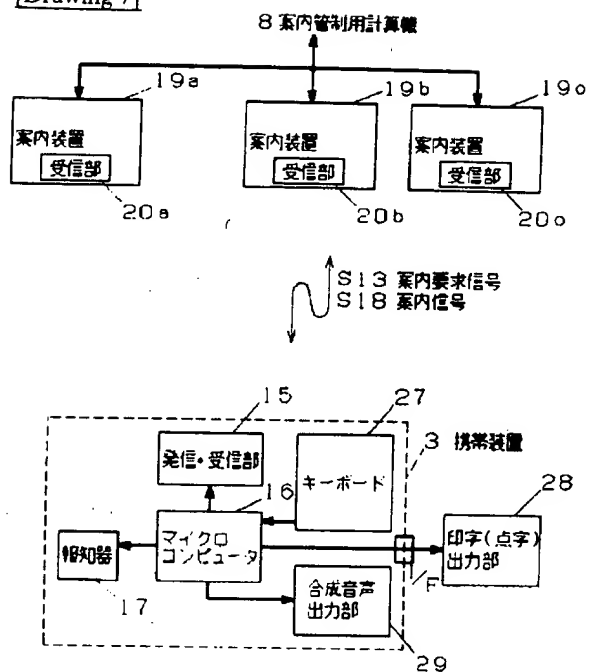
[Drawing 5]

動き	機能波形	周期(秒)	周波数	案内信号
もみ		速 1.0	50HZ	通路の通行禁止
		中 2.0	50HZ	店内で買物できない
		遅 3.0	50HZ	非常事態発生中要注意 止まって下さい
たたき		速 0.125	単パルス	店内で買物可能
		中 0.25	単パルス	店員が来ます
		遅 0.5	単パルス	救援が来ます
振動		速 4.0	30HZ	急いで歩行して下さい
		中 7.5	30HZ	直進して下さい
		遅 14.0	30HZ	通路を進行できる
片極振動		速 4.0	30HZ	右: 右に移動して下さい 左: 左に移動して下さい
		中 7.5	30HZ	右: 右に向いて下さい 左: 左に向いて下さい
		遅 14.0	30HZ	右: 右に曲がって下さい 左: 左に曲がって下さい

[Drawing 6]



[Drawing 7]



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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the configuration in the 1st example of the guidance system for sight-and-hearing-handicaps persons of this invention

[Drawing 2] The block diagram showing the configuration which is in the 2nd example and chooses the content of a guidance demand with a switch

[Drawing 3] The block diagram showing the configuration which is in the 3rd example and reports a guidance information with voice

[Drawing 4] The block diagram showing the configuration which is in the 4th example and transmits a guidance information by low frequency vibration

[Drawing 5] Explanatory drawing showing the content of transmission of the low frequency vibration in the 4th example

[Drawing 6] The block diagram showing the configuration which is in the 5th example and reports a guidance information with the Morse code

[Drawing 7] The block diagram showing the configuration which is in the 6th example and transmits a guidance information by the synthesized speech and Braille-points printing

[Description of Notations]

- 1 Guidance Processing Management Equipment
- 3 Pocket Equipment
- 4a, 4b Path service observation equipment
- 5a-5c Disabled person sensing machine
- 6a, 6b, and 7a- 7c and 15 Dispatch and receive section
- 8 Computer for Guidance Control
- 9 Inside-of-a-Shop Designation Machine
- 11 Designation LGT
- 13 Information Plate and Alarm Plate
- 16 Microcomputer
- 17 Annunciator
- 19a-19c Guide apparatus
- 20a-20c Receive section
- 21 Switch Section
- 23 Loudspeaker
- 24 Low Frequency Oscillating Section
- 27 Keyboard
- 26 \*\*\*\*\* Sound Conversion Output Section
- 28 Printout Section
- 29 Synthesized-Speech Output Section

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Technique

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[Description of the Prior Art] Conventionally, the shopper is shown in the department store. For example, guidance by a display and broadcast is performed using a guide plate or announcement-over-a-store's-public-address-system equipment. Moreover, it is used also for refuge lead of the shopper of inside of a shop at the chip box of calamity occurrence, such as a fire and an earthquake, using these guide plates or announcement-over-a-store's-public-address-system equipment.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention displays the processing information which starts guidance between the pocket equipments and inner processing management equipments which a sight-and-hearing-handicaps person carries, and relates to the guidance system for sight-and-hearing-handicaps persons which performs guidance and lead of inside of a shop etc.

[0002]

[Description of the Prior Art] Conventionally, the shopper is shown in the department store. For example, guidance by a display and broadcast is performed using a guide plate or announcement-over-a-store's-public-address-system equipment. Moreover, it is used also for refuge lead of the shopper of inside of a shop at the chip box of calamity occurrence, such as a fire and an earthquake, using these guide plates or announcement-over-a-store's-public-address-system equipment.

[0003]

[Problem(s) to be Solved by the Invention] However, it is in the guidance system for sight-and-hearing-handicaps persons of the conventional example, a guide plate is viewed, the content is checked, and it shows further announcement-over-a-store's-public-address-system equipment to the predetermined location through the broadcast from a loudspeaker, i.e., an acoustic sense. Therefore, grasp of the content is difficult for the sight-and-hearing-handicaps person.

[0004] this invention aims at the outstanding guidance system distribution for sight-and-hearing-handicaps persons to which the goods name of the request in inside of a shop etc. is further checked, and the exhibition hall place of the goods is shown, desired goods stock, and delivery becomes possible while it solves such a conventional problem and can guide a sight-and-hearing-handicaps person certainly on the inside of a shop etc.

[0005]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the guidance system for sight-and-hearing-handicaps persons of this invention The pocket equipment which receives on radio and displays the response to the guidance demand information which carried out radio sending of the information on the inputted guidance demand, and carried out radio sending while the sight-and-hearing-handicaps person carried, While the status of the path where senses the sight-and-hearing-handicaps person who carries pocket equipment, and a sight-and-hearing-handicaps person moves is inspected, the guidance demand information from pocket equipment is received, and it is carrying out as the configuration have the guidance processing management equipment which carries out radio sending of the guidance information which processed this guidance demand information, and displays it.

[0006] A sensing means to sense the sight-and-hearing-handicaps person to whom it is in this configuration and guidance processing management equipment carries pocket equipment, A path audit means of the path where a sight-and-hearing-handicaps person moves to inspect an obstruction and the confusion status at least, A receiving means to receive the guidance demand information from pocket equipment, and a guidance demand information-processing means to process the guidance demand information received with the receiving means, It is considering as the configuration equipped with the radio transmitting means which carries out radio sending of the processing information processed with the guidance demand information-processing means, and the display means which displays [ voice-] and/or displays [ visual-sense-] the processing information which processed with the guidance demand information-processing means.

[0007] Moreover, pocket equipment is carrying out as the configuration have a store means store two or more guidance demand informations; a selection means choose two or more guidance demand informations which stored in a store means, the radio transmitting means that carry out radio sending of the guidance demand information which chose with a selection means, a radio receiving means receive the guidance information from guidance processing management equipment, and a sound output means carry out a sound output and display the receipt information received at a radio receiving means.

[0008] Moreover, a store means to store the guidance demand information on a plurality [ equipment / pocket ] and a selection means to choose two or more guidance demand informations that it stored in the store means, It is carrying out as the configuration have a voice- output means to carry out the voice output of the receipt information which received with the radio transmitting means which carries out radio sending of the guidance demand information chosen with the selection means, a radio receiving means to receive the guidance information from guidance processing management equipment, and the guidance demand information and radio receiving means which were chosen with the selection means, and to display.

[0009] A store means to store the guidance demand information on a plurality [ equipment / pocket ] furthermore, and a selection

means to choose two or more guidance demand informations that it stored in the store means, The radio transmitting means which carries out radio sending of the guidance demand information chosen with the selection means, and a radio receiving means to receive the guidance information from guidance processing management equipment, It is a configuration equipped with a low frequency oscillating information conversion means to change into a low frequency oscillating information the receipt information which received with the guidance demand information and radio receiving means which were chosen with the selection means, and the low frequency oscillating means of communication which transmits the low frequency oscillating information from a low frequency oscillating information conversion means to a man's skin.

[0010] Moreover, pocket equipment is the configuration of having a Morse-code sound output means change to the Morse code and carry out a sound output in the receipt information received at the key input means for inputting two or more guidance demand informations with the Morse code, the radio transmitting means which carry out radio sending of the guidance demand information that it inputted with the key input means, a radio receiving means receive the guidance information from guidance processing management equipment, and the guidance demand information and the radio receiving means chose at a selection means.

[0011] It is the configuration of having the key input means for furthermore pocket equipment inputting two or more guidance demand informations, the radio transmitting means which carry out radio sending of the guidance demand information that it inputted with the key input means, a radio receiving means receive the guidance information from guidance processing management equipment, and a synthesized-speech output means output the receipt information received at the guidance demand information and the radio receiving means which were chosen at the selection means at a synthesized speech.

[0012] Moreover, pocket equipment is the configuration of having a Braille-points printout means print in braille and output the receipt information received at the key input means for inputting two or more guidance demand informations, the radio transmitting means which carries out radio sending of the guidance demand information that it inputted with the key input means, a radio receiving means receive the guidance information from guidance processing management equipment, and the guidance demand information and the radio receiving means which chose at a selection means.

[0013] Furthermore, it is considering as the configuration which equips a disabled person conveyance vehicle with the pocket equipment of these configurations.

[0014]

[Function] By such configuration, it receives on radio and the guidance system for sight-and-hearing-handicaps persons of this invention shows the response to the guidance demand information which carried out radio sending of the information on the inputted guidance demand, and was transmitted from the pocket equipment which a sight-and-hearing-handicaps person carries. Moreover, the guidance demand information from pocket equipment is received, while the status of the path where senses a sight-and-hearing-handicaps person, and a sight-and-hearing-handicaps person moves is inspected, radio sending of the guidance information which processed this guidance demand information is carried out, and it is expressed as guidance processing management equipment. Therefore, while the goods name of the request in inside of a shop etc. is further checked while a sight-and-hearing-handicaps person can be guided certainly on the inside of a shop etc., and the exhibition hall place of the goods can be shown, desired goods stock and delivery becomes possible.

[0015]

[Example] Hereafter, the example of the guidance system for sight-and-hearing-handicaps persons of this invention is explained in detail with reference to a drawing.

[0016] Drawing 1 is a block diagram showing the configuration in the 1st example in the guidance system for sight-and-hearing-handicaps persons of this invention. In drawing 1, this example is installed in inside of a shop, such as a department store, and the outline configuration is carried out at a shopper and the visual and auditory senses with the guidance processing management equipment 1 which performs processing for performing the guidance and the lead to the shopper (sight-and-hearing-handicaps person) accompanied by the distress, and the pocket equipment 3 which a sight-and-hearing-handicaps person carries on the inside of a shop. The guidance processing management equipment 1 The path service observation equipments 4a and 4b, and the disabled person sensing machines 5a-5b and 5c, It has the dispatch and the receive sections 6a and 6b connected to the path service observation equipments 4a and 4b, the dispatch and the receive sections 7a, 7b, and 7c which are connected to the disabled person sensing machines 5a-5c, the computer for guidance control 8, the inside-of-a-shop designation machine 9, the annunciator control strip 10, designation LGT 11, and an information plate and an alarm plate 13.

[0017] The path service observation equipments 4a and 4b inspect the flash status and the inside-of-a-shop confusion status of an exhibition object which are in the inside-of-a-shop path status at the time of a sight-and-hearing-handicaps person passing. For example, it is installed in head lining etc. and path shielding sensing machines, such as existence of the counter which carries out the coefficient of the number of visitors which passes through a path, an inside-of-a-shop monitoring camera, and the obstruction of a path, the inside-of-a-shop status sensing machine which senses the inside-of-a-shop confusion status ultrasonically are used. Moreover, the indoor environmental sensing machine which senses occurrence of the smoke in inside of a shop, gas, ignition, an elevated temperature, a short circuit, etc. is also used. These path service observation equipments 4a and 4b transmit and receive an information through dispatch and the receive sections 6a and 6b. The disabled person sensing machines 5a-5c collect inside-of-a-shop informations, and receive the guidance demand signal S13 which shows a self-(dispatch) position from the pocket equipment 3 through dispatch and the receive sections 7a-7c through dispatch and the receive sections 7a-7c.

[0018] It connects with the path service observation equipments 4a and 4b and the disabled person sensing machines 5a-5c

through dispatch and the receive sections 6a, 6b, 7a,-7c, and the computer for guidance control 8 carries out the centralized control of various kinds of inside-of-a-shop informations containing the guidance demand signal S13 from the pocket equipment 3. That is, analysis and a judgment are performed and the judgment result information S14 which it is as a result is sent out to dispatch and the receive sections 6a, 6b, 7a,-7c, the inside-of-a-shop designation machine 9, and the annunciator control strip 10, respectively. The inside-of-a-shop designation machine 9 controls designation LGT 11 which performs a lighting display based on the judgment result information S14 from the computer for guidance control 8. The annunciator control strip 10 controls the information plate and the alarm plate 13 which displays informations, such as a notice to an inside-of-a-shop information, a guidance information, and a shopper, and urgent connection, based on the judgment result information S14 from the computer for guidance control 8.

[0019] The pocket equipment 3 which a sight-and-hearing-handicaps person carries is equipped with dispatch and the receive section 15, the microcomputer 16, and the annunciator 17. Dispatch and the receive section 15 receive the ultrasonic wave from the dispatch and the receive sections 6a, 6b, 7a,-7c which send the guidance demand signal S13, and are connected to the guidance processing management equipment 1, laser, and the guidance signal S18 that is the modulated wave of light. The guidance information on this guidance signal S18 is displayed also on designation LGT 11. A microcomputer 16 controls each part of the concerned pocket equipment 3. An annunciator 17 reports a signal, an alarm, etc. to a pocket person by control of a microcomputer 16.

[0020] Next, the operation in the configuration of this 1st example is explained. The guidance processing management equipment 1 sends the guidance signal S18 through the computer for guidance control 8, and dispatch and receive sections 6a and 6b. They are the goods explanation and selling price which are sold to this guidance signal S18 on the inside of a shop, and the guidance information which a discount is given and is advertisement of a sale etc. Moreover, the computer for guidance control 8 in the guidance processing management equipment 1 receives the guidance demand signal S13 sent from the dispatch and the receive section 15 in the pocket equipment 3 through dispatch and the receive sections 6a and 6b, and the disabled person sensing machines 5a-5b. Either of the disabled person sensing machines 5a-5c distinguishes that the contiguity of the pocket equipment 3, i.e., a sight-and-hearing-handicaps person, is approaching from this input-signal level, and this sight-and-hearing-handicaps person's contiguity information is sent out to the computer for guidance control 8 from dispatch and the receive sections 7a-7c. The computer for guidance control 8 sends the information analyzed based on this input signal as a guidance signal S18 from dispatch and the receive sections 7a-7c. The guidance signal S18 from these dispatch and receive sections 6a-6c is received by dispatch and the receive section 15 of the pocket equipment 3. By this input signal, a microcomputer 16 operates an annunciator 17 and reports a guidance information to a sight-and-hearing-handicaps person. In this case, an annunciator 17 emits sound, a guidance information is reported, and for a visually impaired person, vibration etc. is emitted from an annunciator 17, and a guidance information is reported to a visually impaired person.

[0021] In this case, the path service observation equipments 4a and 4b are supervising the inside-of-a-shop status of changing in the narrow domains, such as a path of inside of a shop. The information on this inside-of-a-shop status is sent out to the computer for guidance control 8 through dispatch and the receive sections 7a-7c. The computer for guidance control 8 carries out the centralized control of the information on the collected inside-of-a-shop statuses, performs a calculation, analysis, and a judgment further, and sends out the judgment result information S14, for example, the information on a contiguity of a sight-and-hearing-handicaps person, to the inside-of-a-shop designation machine 9, the annunciator control strip 10, and dispatch and receive sections 6a, 6b, 7a,-7c. The inside-of-a-shop designation machine 9 which received the judgment result information S14 performs lighting which controls designation LGT 11 and reports a contiguity of a sight-and-hearing-handicaps person to a nearby shopper and a nearby salesclerk. Moreover, character representation with which the annunciator control strip 10 which received the judgment result information S14 controls an information plate and the alarm plate 13, and indicates a contiguity of a sight-and-hearing-handicaps person to be is performed. The shopper and salesclerk near the sight-and-hearing-handicaps person can be [ like ] careful now for knowing a contiguity and not barring the advance with the display by this designation LGT 11 and the annunciator control strip 10. Moreover, the guidance signal S18 is sent from dispatch and the receive sections 6a, 6b, 7a,-7c. This guidance signal S18 is received through the dispatch and the receive section 15 in the pocket equipment 3, and the input signal is outputted to a microcomputer 16. A microcomputer 16 judges presence of an obstruction, the optimum information for a move, for example, inside-of-a-shop path, in inside of a shop of the sight-and-hearing-handicaps person who carried the concerned pocket equipment 3, from the information on the guidance signal S18. An annunciator 17 is controlled based on this decision, and sound, voice, vibration, etc. report the signal for the lead guidance which a sight-and-hearing-handicaps person avoids an obstruction from an annunciator 17, and can move safely on the inside of a shop, an alarm, etc. By this information, the sight-and-hearing-handicaps person who carried the concerned pocket equipment 3 avoids the obstruction of the path of inside of a shop, and can move. Moreover, by displaying the information concerning shopping of the inside of a shop in designation LGT 11, and an information plate and an alarm plate 13, it can also be made reference of a shopper's shopping. Moreover, a display according [ sense the obstruction in inside of a shop by the path service observation equipments 4a and 4b, and also sense occurrence of calamities, such as a fire and an earthquake, and ] to lighting with designation LGT 11 and the information display in an information plate and the alarm plate 13 The synizesis of a path which carries out refuge lead is made to avoid, and reservation of a safe refuge way can also be performed. The guidance signal S18 which it shows to a refuge way similarly from dispatch and the receive sections 6a, 6b, 7a,-7c is sent, and the annunciator 17 in the pocket equipment 3 which received this guidance signal S18 shows a refuge way with voice etc. By this guidance, the sight-and-hearing-handicaps person who carried the pocket equipment 3 will call off derangement of an emergency, and can take shelter safely.

[0022] Thus, in the 1st example, while the guidance information on the guidance signal S18 can be reported to the visually impaired person who carried the pocket equipment 3 through the pocket equipment 3, a guidance information can be reported to a hearing-impaired person through a visual-sense display of designation LGT 11, and an information plate and an alarm plate 13.

[0023] In addition, although the guidance signal S18 is sent by the control of the computer for guidance control 8, the path service observation equipments 4a and 4b and the disabled person sensing machines 5a-5b may be made to send the guidance signal S18 in this 1st example directly through dispatch and the receive sections 6a, 6b, 7a, 7c. In this case, a system configuration can be simplified. Moreover, the pocket equipment 3 receives the guidance signal S18, and it is even good to report this guidance information. The configuration of the pocket equipment 3 can be simplified also in this case. Moreover, the pocket equipment 3 is carried, and a salesclerk may grasp the nearby sight-and-hearing-handicaps person's presence status, and may correspond. Moreover, you may equip a wheelchair, a cane, etc. with the pocket equipment 3.

[0024] Next, the 2nd example is explained. Drawing 2 is a block diagram showing the configuration which is in the 2nd example and chooses a guidance demand information with a switch. In drawing 2, the guide apparatus 19a, 19b, and 19c connected to the computer for guidance control 8 are formed during the guidance processing management equipment 1 to which this example is shown in drawing 1. The receive sections 20a, 20b, and 20c for transmitting the path service observation equipments 4a and 4c, the disabled person sensing machines 5a-5c, the computer for guidance control 8, and information which are shown in the pocket equipment 3 and the drawing 1 to these guide apparatus 19a-19c are formed. Moreover, the switch section 21 which chooses a guidance demand information as the pocket equipment 3 with the configuration 15 shown in drawing 1, i.e., dispatch and a receive section, the microcomputer 16, and the annunciator 17 is formed. Dispatch and the receive section 15 perform transmission and reception of the guidance demand signal S13 and the guidance signal S18.

[0025] Next, an operation of this 2nd example is explained. With the pocket equipment 3, the guidance demand information chosen by operation of the switch section 21 with the microcomputer 16 is processed, and it sends through dispatch and the receive section 15 as a guidance demand signal S13, and dispatch and the receive section 15 receive the guidance signal S18 from the receive sections 20a-20c in guide apparatus 19a in the guidance processing management equipment 1, - 19c. Various kinds of informations, such as existence of the status of the inside of a shop obtained by this guidance signal S18, the status of the guidance signal light of a goods corner, the location of an entrance, the location of accounts, and the obstruction of a path, are reported to a sight-and-hearing-handicaps person through an annunciator 17.

[0026] A sight-and-hearing-handicaps person shows the modality of guidance demand in the guidance demand signal S13 which chooses in the switch section 21 of the pocket equipment 3, and is sent out from dispatch and the receive section 15 in (Table 1).

[0027]

[Table 1]

障害の種類	信号	案内要求の種類	信号
1 目の不自由な人	S 1	(a) 店内を買い物する場合	S a
2 耳の不自由な人	S 2	(b) 店員を呼びたい場合	S b
3 歩行の不自由な人	S 3	(c) 気分や具合が優れず助けを求める場合	S c
4 判断の不自由な人	S 4	(d) 買物の会計をする場合	S d
5 その他の不自由な人	S 5	(e) 店内に迷ってる場合	S e
		(f) 店の出口に急いでいる場合	S f
		(g) 立ち止まっている場合	S g
		(h) エレベータに乗りたい場合	S h

[0028] In this case, the modalities 1-5 of failure and the modality of guidance demand (a) - (h) The combined guidance demand signal S13 standardizes the content of a signal, such as a Radio Frequency, a phase, level, and a modulation. Moreover, the modalities 1-5 of failure and the modality of guidance demand (a) - (h) A corresponding guidance information is shown in (Table 2).

[0029]

[Table 2]

障害の種類	信号	案内の種類	信号
1 目の不自由な人	R 1	(a) 通路を直進する場合	R a
2 耳の不自由な人	R 2	(b) 通路を左折する場合	R b
3 歩行の不自由な人	R 3	(c) 通路を右折する場合	R c
4 判断機能の不自由な人	R 4	(d) そこで、停止する場合	R d
5 その他の機能の不自由な人	R 5	(e) 通路を後ろへ戻る場合	R e
		(f) 店の出口に急いでいる場合	R f
		(g) 店員が行くので待機する場合	R g

[0030] Modality of guidance demand which a sight-and-hearing-handicaps person operates the switch section 21 of the pocket equipment 3, and is shown in Table 1 (a) - (h) The desired content is chosen from inside. A microcomputer 16 processes the modality ((a) - (h)) of this selected guidance demand, and this content is sent as a guidance demand signal S13 from dispatch and the receive section 15. For example, a signal S1 "a visually handicapped person" sends the signal Sd in the guidance demand information \*\*\*\* table 1 in the case of operating the switch section 21 and paying the bill of "(d) shopping", when the accounts location does not become clear. Guide apparatus 19a-19c receive the guidance demand signal S13 which are the signal S1 which shows the modality of failure, and the signal Sd which shows the modality of guidance demand through receive sections 20a-20c. The pocket person of the pocket equipment 3 is "a visually handicapped person", therefore since guide apparatus 19a-19c cannot perform viewing of lighting of the signal light of the accounts corner of inside of a shop, they recognize the need for a voice transmission. From receive sections 20a-20c, to the guidance signal S18 to the band equipment 3, as for guide apparatus 19a-19c, the modality of guidance sends signal Ra, "when going a path straight on." If signal Ra is received by dispatch and the receive section 15, the pocket equipment 3 will judge this "case where path is gone straight on" with a microcomputer 16, will control an annunciator 17, and will report it to sound. The sight-and-hearing-handicaps person who is a pocket person of the pocket equipment 3 will move at the accounts corner of inside of a shop safely by this information according to guidance of the sound reported from an annunciator 17.

[0031] In this case, the path service observation equipments 4a and 4b sense confusion of the path to an accounts corner, and send out this information to the computer for guidance control 8. The computer for guidance control 8 judges the information on a pocket person's position etc. from the disabled person sensing machines 5a-5c, controls an information plate and the alarm plate 13 through the annunciator control strip 10 of near in which the pocket person of the pocket equipment 3 is located from receive sections 20a-20c in this judgment result information S14, and performs the display for demanding cautions from the shopper near the sight-and-hearing-handicaps person. Moreover, a request of the cooperation which there is confusion of the path to an accounts corner, and makes easy the move by walk of a sight-and-hearing-handicaps person with the voice loudspeaker not to illustrate is announced.

[0032] Thus, while a sight-and-hearing-handicaps person sends a guidance demand information spontaneously, it processes by dialogic operation, and the 2nd this example can report a guidance demand information to a hearing-impaired person through a visual-sense display of designation LGT 11, and an information plate and an alarm plate 13, while the guidance demand information on the guidance signal S18 can be reported to a visually impaired person through the pocket equipment 3.

[0033] Next, the 3rd example is explained. Drawing 3 is a block diagram showing the configuration which is in the 3rd example and carries out the voice transmission of the guidance demand information. In drawing 3, the guide apparatus 19a, 19b, and 19c connected to the computer for guidance control 8 are formed during the guidance processing management equipment 1 shown in drawing 1 at this example. The receive sections 20a-20c which transmit an information to these guide apparatus 19a-19c by control of the path service observation equipments 4a and 4c and the disabled person sensing machines 5a-5c which are shown in the pocket equipment 3 and the drawing 1, and the computer for guidance control 8 are formed. Moreover, in the pocket equipment 3, the same dispatch and receive section 15 as the 2nd example shown in drawing 2, the microcomputer 16, and the switch section 21 are formed. The annunciator 17 which furthermore processes the guidance demand signal S13 from dispatch and the receive section 15 by control of a microcomputer 16, and is reported to a pocket person by dial tone, Dispatch and the receive section 15 receive the guidance signal S18 sent by the control of a microcomputer 16 from the receive sections 20a-20c of guide apparatus 19a-19c. the loudspeaker which reports with voice various kinds of informations, such as existence of the status of the inside of a shop which is the information, the status of the annunciator of inside of a shop, the degree of confusion of a shopping path, and the obstruction of a path, to a sight-and-hearing-handicaps person -- it has 23 A sight-and-hearing-handicaps person shows the guidance demand information on the guidance demand signal S13 sent through dispatch and the receive section 15 of the pocket equipment 3 in (Table 3).

[0034]

[Table 3]

案内要求の種類	信号
(a) 店内を歩行する場合	Sa
(b) エレベータに乗りたい場合	Sb
(c) 気分や具合が優れず助けを求める場合	Sc
(d) 買物のことで店員を呼びたい場合	Sd
(e) 通路に迷っている場合	Se
(f) 急いている場合	Sf
(g) 立ち止まりたい場合	Sg

[0035] The guidance signal S18 sent from the receive sections 20a-20c of guide apparatus 19a-19c is distinguished according to the modality of lead guidance to a hearing-impaired person. Table 4 The modality of this lead guidance is shown.

[0036]

[Table 4]

誘導案内の種類	信号
(a) 店内を歩行する	Ra
(b) エレベータに乗れる場合	Rb
(c) 行き止まりの場合	Rc
(d) 買物のことで店員を呼べる場合	Rd
(e) 通路に迷っている場合	Re
(f) 急いで歩行して下さい	Rf
(g) 安全に立ち止れる場合	Rg
(h) 右に移動して下さい	Rh
(i) 左に移動して下さい	Ri
(j) 上り階段があります	Rj
(k) 下り階段があります	Rk
(l) 指示あるまで止まって下さい	Rl
(m) 直進して下さい	Rm
(n) 救援が来ます	Rn

[0037] Next, the operation in the configuration of this 3rd example is explained. A sight-and-hearing-handicaps person operates the switch section 21 of the pocket equipment 3, and the modality Sb of guidance demand shown in [Table 3], for example, the signal in "the case of wanting to take an elevator", is chosen. The signal Sb which shows a guidance demand information from dispatch and the receive section 15 by control of a microcomputer 16 by this selection is sent as a guidance demand signal S13. Dial tone is simultaneously sent from an annunciator 17, and dispatch of the guidance demand signal S13 is reported to a pocket person.

[0038] The guide apparatus 19a-19c which receive the guidance demand signal S13 discriminate that the pocket person of the pocket equipment 3 is a sight-and-hearing-handicaps person with a signal Sb. That is, it is recognized as authentication of lighting of the annunciator of inside of a shop being impossible. in this case, signal Rl\*\*\*\*\* [ in / when it is recognized as near an inside-of-a-shop elevator being crowded with shoppers using the information from the path service observation equipments 4a and 4b and the disabled person sensing machines 5a-5c in the 1st example, and the computer for guidance control 8 / as opposed to / the pocket equipment 3 / first / from receive sections 20a-20c ] the modality of lead guidance by the guidance signal S18 / -- being certain -- until -- please stop -- " is sent Simultaneously with this dispatch, guide apparatus 19a-19c send out an information to the computer for guidance control 8 from receive sections 20a-20c. Based on the information from the computer for guidance control 8, lighting of designation LGT 11 of inside of a shop is controlled, and the inside-of-a-shop designation machine 9 opens a path to a crowded shopper wide, and displays \*\*\*\*\* of passing of a sight-and-hearing-handicaps person on him. if dispatch and the receive section 15 receive a signal Rl (guidance signal S18) with the pocket equipment 3 -- the content -- a microcomputer 16 -- judging -- a loudspeaker -- 23 is controlled and voice reports the content of a signal Rl to a pocket person

[0039] It senses that the shopper is not located near an elevator by the path service observation equipments 4a and 4b in the meantime, and guide apparatus 19a-19c receive the information. By this reception, from receive sections 20a-20c, as for guide apparatus 19a-19c, the modality of lead guidance of the pocket equipment 3 sends signals Ra-Rg with the guidance signal S18,



"when an elevator can be taken." if dispatch and the receive section 15 receive signals Ra-Rg with the pocket equipment 3 -- the content -- a microcomputer 16 -- judging -- a loudspeaker -- 23 is controlled Voice reports the content to a pocket person by this control. the sight-and-hearing-handicaps person who is a pocket person of the pocket equipment 3 in connection with this -- a loudspeaker -- according to the lead voice reported from 23, it can board now in an elevator safely

[0040] Thus, in the 3rd example, a demand is spontaneously transmitted to a guide apparatus, and by dialogic operation, a sight-and-hearing-handicaps person checks a safety, and can act. In addition, since voice has reported in this 3rd example using loudspeaker 23, it is the the best for especially guidance of a visually impaired person. Next, the 4th example is explained.

[0041] Drawing 4 is a block diagram showing the configuration which is in the 4th example and transmits a guidance demand information by low frequency vibration. In drawing 4, this 4th example has the guidance processing management equipment 1 shown in drawing 2. That is, it has guide apparatus 19a-19c and the receive sections 20a-20c. Moreover, to the pocket equipment 3, it has dispatch and the receive section 15, the microcomputer 16, the switch section 21, and the annunciator 17 like the 2nd example. It has the low frequency oscillating section 24 which generates the low frequency oscillating signal used for the treatment of "the stiffness of the shoulders, fatigue, the neuralgai, and muscular pain" in the guidance demand information and the received guidance information furthermore inputted from the switch section 21, and the electrode section adhesion pad 25 which transmits a guidance information through a sight-and-hearing-handicaps person's skin by low frequency vibration from this low frequency oscillating section 24. Furthermore, on-the-strength adjustment knob 24a which adjusts the intensity in the electrode section adhesion pad 25 is prepared in the low frequency oscillating section 24.

[0042] Next, an operation of the configuration in this 4th example is explained. The electrode section adhesion pad 25 is stuck on a visually impaired person's skin, and it fixes. The content and the path status of designation LGT 11 of inside of a shop, and the guidance signal S18 which puts on the market and shows the content of a display are received by dispatch and the receive section 15 of the pocket equipment 3. Signals, such as a frequency corresponding to this guidance signal S18, a period, a polarity, level, and a modulation, are changed into low frequency vibration with the low frequency oscillating section 24 and the electrode section adhesion pad 25, and this low frequency vibration is transmitted through a visually impaired person's skin. This content of transmission is shown in drawing 5. it is shown in this drawing 5 -- as -- "rubbing -- striking -- vibration and \*\*\*\* vibration -- the period (frequency) is changed into every", and a guidance signal is transmitted to it by low frequency vibration Moreover, the strength from the electrode section adhesion pad 25 is adjusted by on-the-strength adjustment knob 24a, and it is used for an individual visually impaired person by the most highly sensitive intensity. In consideration of movement, operating photographic sensitivity, etc., the position to stick also changes this electrode section adhesion pad 25.

[0043] Thus, a demand of a visually impaired person is transmitted, this guidance information can be checked by low frequency vibration and dialogic operation, and it comes to be able to perform connection of the content of shopping easily and quickly in the 4th example. In this case, since it is not the transmission by voice, it is not influenced by the surrounding ambient noise. In addition, what method may be used for it as long as it can transmit the transmission by the low frequency oscillating section 24 through the skins, such as vibrator.

[0044] Next, the 5th example is explained. Drawing 6 is a block diagram showing the configuration which is in the 5th example and reports a guidance information with the Morse code. In drawing 6, this 5th example has the guidance processing management equipment 1 shown in drawing 2. That is, it has guide apparatus 19a-19c and the receive sections 20a-20c. Moreover, to the pocket equipment 3, it has dispatch and the receive section 15, the microcomputer 16, the annunciator 17, and the switch section 21 like the 2nd example. A guidance demand information is changed into a correspondence number using the Morse code, and it has the \*\*\*\*\* sound conversion output section 26 which outputs and reports the received guidance information to a visually impaired person in the correspondence number of the Morse code at the same time it sends the input of the keyboard 27 which furthermore inputs a demand of a visually impaired person, and this keyboard 27 as a guidance demand signal S13.

[0045] Next, an operation of the configuration in this 5th example is explained. for example, the scad of "small size -- 3 \*\*s and the thin end hum made from OO -- OO type of five sheets and OO specification -- two pieces and -- I want to buy it -- a demand of the usual document field of " is inputted from a keyboard 27 The inputted Morse code is sent to guide apparatus 19a-19c as a guidance demand signal S13 from dispatch and the receive section 15 while it is processed in the \*\*\*\*\* sound conversion output section 26 and is checked with the sound output from an annunciator 17. Guide apparatus 19a-19c recognize that a shopper is a visually impaired person from the content of an information by the mall sign which received. Guide apparatus 19a-19c send a guidance information from receive sections 20a-20c with the guidance signal S18 to the pocket equipment 3 after this recognition. This guidance signal S18 is received by dispatch and the receive section 15 of the pocket equipment 3. This receiving content is judged with a microcomputer 16, an annunciator 17 is controlled, and the Morse code reports a guidance information through the \*\*\*\*\* sound conversion output section 26.

[0046] Furthermore, the position of inside of a shop is expressed as designation LGT 11, and an information plate and an alarm plate 13, and this guidance information is reported to the salesclerk near the visually impaired person. A salesclerk can do the guidance lead of the visually impaired person to the corner which exhibited the goods of choice, or can have the goods of hope in stock.

[0047] Thus, in the 5th example, since the visually impaired person etc. is transmitting the guidance demand information by the Morse code spontaneously, the detailed content can be transmitted. In addition, in this 5th example, although the sound output has reported the Morse code, you may transmit the Morse code by low frequency vibration through the low frequency oscillating section 24 and the electrode section adhesion pad 25 which were shown in the 4th example. In this case, being influenced of

surrounding sound is lost.

[0048] Next, the 6th example is explained. Drawing 7 is a block diagram showing the configuration which is in the 6th example and transmits a guidance information by the synthesized speech and Braille-points printing. In drawing 7, it has the guidance processing management equipment 1 shown in drawing 2 in this 6th example. That is, it has guide apparatus 19a-19c and the receive sections 20a-20c. Moreover, to the pocket equipment 3, it has dispatch and the receive section 15, the microcomputer 16, the annunciator 17, and the switch section 21 like the 2nd example. Furthermore, the visually impaired person has the keyboard 27 which inputs the content of a demand of shopping of the pocket equipment 3, the synthesized-speech output section 29 which outputs the guidance demand information and the received guidance information inputted from the keyboard 27 by the synthesized speech, and the printout section 28 which prints in braille the guidance demand information and the received guidance information inputted from the keyboard 27, and outputs it. The synthesized-speech output section 29 carries out code conversion of the information on the Morse code, and carries out the voice output of the synthesized speech stored in ROM which does not illustrate this conversion data through a loudspeaker.

[0049] Next, the operation in the configuration of this 6th example is explained. From a keyboard 27, a demand is inputted for a demand with the Morse code like the 5th example. While this Morse code is checked with the sound output from an annunciator 17, it outputs by the synthesized speech in the synthesized-speech output section 29. Furthermore, it prints and outputs from the printout section 28 in braille if needed. Moreover, a guidance demand information is sent to guide apparatus 19a-19c as a guidance demand signal S13 from dispatch and the receive section 15. Guide apparatus 19a-19c recognize that a shopper is a visually impaired person from receipt information, express this content as designation LGT 11 of inside of a shop, and an information plate and an alarm plate 13, and report it to the salesclerk near the visually impaired person. A salesclerk does the guidance lead of the visually impaired person to the corner which exhibited the goods of choice, or has the goods of hope in stock.

[0050] Thus, in the 6th example, since the visually impaired person etc. is transmitting the demand to the salesclerk etc. through the Morse code spontaneously, the detailed content can be transmitted. Since it can furthermore check by printing of a synthesized speech and Braille points, transmission of a more detailed information is attained.

[0051]

[Effect of the Invention] It receives on radio and the guidance system for sight-and-hearing-handicaps persons of this invention shows the response to the guidance demand information which carried out radio sending of the information on the guidance demand inputted from the pocket equipment which a sight-and-hearing-handicaps person carries, and was transmitted so that clearly from the above explanation. Moreover, while the status of the path where guidance processing management equipment senses a sight-and-hearing-handicaps person, and a sight-and-hearing-handicaps person moves is inspected Since the guidance demand information from pocket equipment is received, and radio sending of the guidance information which processed this guidance demand information is carried out and it is displaying, while a sight-and-hearing-handicaps person can be guided certainly on the inside of a shop etc. Furthermore the goods name of the request in inside of a shop etc. is checked, and the exhibition hall place of the goods is shown, desired goods stock, and it has the effect that delivery becomes possible.

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[Translation done.]